# 1st European Moth Nights, August 13th-15th, 2004, a scientific overview (Lepidoptera: Macrolepidoptera)

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**Abstract:** On behalf of the "József Szalkay Lepidopterological Society of Hungary" and the "Entomological Society of Luzern" (Switzerland) the first two authors organised an international event they called the 1st European Moth Nights (EMN) between August 13th-15th, 2004. On the given days, lepidopterologists were invited to simultaneously collect or observe nocturnal moths (Macroheterocera) at any European location of their choice, and report to EMN Headquarters the results obtained. The event set itself the basic goal of establishing contacts between moth-collectors in Europe, creating a geographically wide-ranging snapshot of the moths flying in the same period and drawing attention to moths in general, as well as to the high ratio they represent in the system of nature and their present protection requirements. – A total of 154 lepidopterists from 21 countries (in the highest numbers from Germany, the Netherlands and Hungary) took part in the event. 159 localities in 23 countries (most of them in Hungary, Spain and Germany) were involved. These localities cover Europe from England to Rumania, from Portugal to the Scandinavian countries, and from sea level (0 m) up to 1888 m, respectively. This way, 850 Macrolepidoptera species could be observed in these three days. This number is about 31 % of the total number of nocturnal moth species (Macrolepidoptera) known in Europe. – The authors direct attention to a whole series of human activity harmful to nature which is to be avoided if we want to save the nocturnal Macrolepidoptera fauna. A general prohibition on collecting is not a suitable means to serve this objective! – A fresh call for another three European Moth Nights (July 1st-3rd, 2005, April 28th-30th, 2006 and October 12th-14th, 2007) has been released and the organizers hope that European specialists participate in much higher numbers at these events. Information can be obtained at the addresses to be found at the end of this article. A list of participants, localities and the species observed will be published in tables. However, due to its large size, the table of the complete summary of results can be reached only at the indicated internet sites.

## INTRODUCTION

In June 2004, The "József Szalkay Lepidopterological Society of Hungary" and the "Entomological Society of Luzern" (Switzerland) issued a joined call in which they asked European lepidopterists to take an active part in the 1st European Moth Nights (EMN), an event organised between August 13-15, 2004. Most of the organising, collecting and systematisation of results as well as their evaluation was undertaken by the first two authors.

The original idea of Moth Nights probably comes from some English lepidopterists who brought into being such a national event that they called "National Moth Night" (see e.g. http://www.nationalmothnight.info/).

The essence of the activity is that all active lepidopterists - in the nights of a certain period, at a place chosen by themselves – make observations of moths, summarize the data and send them to a central data base. In the course of "European Moth Nights" - planned to be held once a year - we wish to follow the same idea, but at an all-European level.

We repeat here the content of the Information attached to the first invitation which we have to consider also in the future as a guideline to "European Moth Nights".

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The program has several purposes:

1. First and foremost, connections and community work deserve emphasis. Within the framework of a so-far unprecedentedly extensive project, we wish to unite, even if only for the duration of a few days, European lepidopterists, conservationists, hikers, and in fact anyone who wants to be involved in an all-European program.

2. We wish to present a wide-ranging snapshot on the moths flying in a given period of time, with particular attention to species possibly or actually needing protection and the ones traditionally considered as migratory species.

3. The data and the results obtained as well as their evaluation are to be made available to the general public.

Regarding the technical questions of the 1st European Moth Nights, please follow the instructions below about sending data and tables to make summarizing and systematisation easier.

1. The data should preferably be submitted in the form of Excel tables or some other table format that is clear and easy to systematize. Data are expected primarily in e-mail or if that's not possible, by regular mail to one of the addresses.
2. The table should include the following data (the categories in bold are obligatory to fill out):

– Observer's name and address
– Family, genus, species name (use of the checklist of KARSHOLT & RAZOWSKI 1996 or LERAUT 1997 is advised). In the course of our project, we have to confine ourselves to moths (Macroheterocera) in the traditional sense of the term, therefore also including the families Hepialidae, Cossidae, Limacodidae and Psychidae.
– Country, region, city, exact locality, height above sea level, date, method of collection (type of lamp, its performance or type of trap catching animals alive)
– Frequency (in the form of approximate data by use of the categories found in the invitation or that of exact figures)

It is necessary to stress two very important conditions regarding the realization of the program.
On the one hand, for the accuracy and authenticity of the summary, only data of reliably determined specimens are expected. If you are uncertain regarding your determination of a specimen, ask for the help from a professional or don't send the data of that specimen.

Another important condition is the full respect to the aspects of nature conservancy, thus it is especially unadvisable to collect specimens of protected species and to disturb natural habitats.

In the realization of the project, we especially count on the participation of entomological, mostly lepidopterological societies, groups, conservationist, hiking organizations and individuals who, not unlike us, believe that with the help of the data they provide they can increase our knowledge regarding this uniquely wonderful group of animals, reveal their habitats and secure their appreciation and protection from society.

Please inform of this project as many people as possible and make the activity of all active participants - collectors and observers by lamp alike – accessible to others, including schoolchildren, nature lovers and all those interested. The work of organizing the publicity of this activity is fully left to the active participants.

Let's use the possibility of this event to once again call public attention to the wonderful world of moths as well as to the fact that under the current conditions of civilization, moths are in many places in need of man's well-considered protection.

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We have decided to confine our study to Macrolepidoptera for the following reasons:

– The number of lepidopterists specialized in Microlepidoptera continues to be low. Had we expanded our scope, we would have received different lists, some including Microlepidoptera, others without them, and that would have been a serious obstacle in our work of evaluation.
– In this way we wanted to keep the number of species we were likely to come across with at a level low enough to facilitate evaluation.
– In the case of several moth species, correct determination is by no means simple. However, had we included Microlepidoptera, we could have expected even more misidentification. In addition, we would have been incapable of recognising most of these mistakes and therefore we could not have turned to senders to check their suspicious data.
– In natural scientific research it makes no difference what group you select for the purposes of research. Research can be restricted to a group of species, a genus, a family, a group of families, or whatever.
– Although ”Macrolepidoptera” might not be a philogenetically homogeneous and therefore officially accepted taxonomic category, it is, non the less a morphologically distinct division of moths, mostly described in literature and by collectors as a whole.

The call was released on the website of the Hungarian society, on the website of the first author and was also taken over by many other home pages, and was also sent to several lepidopterists by e-mail or post. Finally, the organisers, mainly in the course of August, September and October, received species lists or tables of varying lengths from a total of 154 lepidopterists. Some of the lists were sent by e-mail, filled out accurately and completely, several others, also arriving by e-mail, contained all kinds of insufficiencies. In those cases, we had

to request the necessary data, for subsequent inclusion. A great many of the lists filled out accurately or insufficiently were received by post, with the duty of recording the data by use of a computer left to the organisers. This resulted in a lot of work that, in a great part, could have been avoided, the organisers are non the less thankful to all colleagues, who, driven by a desire to do their best, took part in any form in the event.

In the end, the individual lists that emerged as a result of the best possible preparation were summarised in one summarized table. You can find this table in full length at the two websites cited below. It is at the disposal of all lepidopterists for any further research or for use in any field. Only the source should be indicated.

We have to emphasize here that all senders were personally responsible for the data they sent, including those of localities as well as species determination. The authors only confined themselves to asking for additional information in problematical cases. Any question that may occur should be addressed to the various informants, and the authors will be pleased to mediate whenever necessary.

**THE PARTICIPANTS**

A total of 154 lepidopterists took parts in the event (Table 1), some of them completely on their own, others in pairs or threesomes, while in some cases several colleagues were present on the same day.

From the point of view of the nationality of the participants, 21 countries are represented (Map 1):

AT = Austria (3), BE = Belgium (2), BG = Bulgaria (3), CH = Switzerland (9), DE = Germany (23), DK = Denmark (3), EE = Estonia (5), ES = Spain (11), FI = Finland (4), FR = France (8), GB = Great Britain (11), HU = Hungary (15), IT = Italy (11), MT = Malta (12), NL = Netherlands (16), NO = Norway (1), PL = Poland (2), PT = Portugal (2), RO = Rumania (10), SE = Sweden (2), SK = Slovakia (1).

The highest number of participants came from Germany (23), 5 of whom, however, collected outside that country. Germany is followed by the Netherlands (16), Hungary (15), Spain, Italy, Malta and Great Britain (11 each), Rumania (10) and Switzerland (9). It is remarkable that a relatively high number of participants come from relatively small countries, such as the Netherlands and Hungary, and especially in Malta where the numbers might indicate the involvement of the complete lepidopterist community of the country. Equally surprising, some of the larger countries, like France or the Scandinavian countries produced a relatively small turnout.

It is of special significance to point out that 9 of the participants collected beyond the frontiers of their own countries. So it should not be forgotten, that it is possible to participate in this event in any country of Europe (even in Iceland), even if you are abroad, on holiday, on a business trip or in transit on the given days.

We extend our warmest greetings to LADIES among the participants, with special regard to their small number in the lepidopterist community!

**ACKNOWLEDGEMENTS**

We express acknowledgement in the first place to the colleagues who took an active part in the event, by collecting or observing and submitting data on localities (see Table 1). Special thanks go to the following colleagues who translated the invitation for the "1st European Moth Nights" into English, Dutch, French, Italian and Rumanian: JÁNOS DOBOS (HU-Budapest), ZSOLT DOBOS (NL-Utrecht), CLAUDIO FLAMIGNI (IT-Bologna), ANTOINE SIERRO (CH-Flanthey) and CSABA T. VIZAUER (RO-Dés/Dej). – In the ranks of other lepidopterists who helped –in their respective countries- the organizers in the work of coordination and on the most different matters, mention should be made of (we apologize for any accidental omission): KARL KISER (CH-Sarnen), GÁBOR KOCSY (HU-Székesfehérvár), ATTILA PÁL (HU-Érd), GERGELY PETRÁNYI (HU-Budapest), VILMOS POLONYI (HU-Budapest), SZABOLCS SÁFIÁN (HU-Gyula), PAUL SAMMUT (MT-Rabat), ERWIN SCHÄFFER (CH-Luzern), RACHEL TERRY (GB-London), CSABA T. VIZAUER (RO-Dés/Dej).

**PLACES OF INVESTIGATION**

The number of the places of investigation totals 159 (Table 2). This is not identical with the number of participants, as in some places, several lepidopterist were present together, others, in turn, collected in several localities in those three days. The number of the countries (23) is also higher than that of the participants, since in two countries, namely, in Croatia and Slovenia, the collector was German, and not a native of those countries. The localities cover Europe from England to Rumania and from Portugal to the Scandinavian countries, and

heights from sea level (0 m) up to 1888 meters.

The breakdown of the 159 places of investigation by countries (23) is as follows (Map 2):

AT = Austria (3), BE = Belgium (2), BG = Bulgaria (4), CH = Switzerland (9), DE = Germany (17), DK = Denmark (3), EE = Estonia (6), ES = Spain (18), FI = Finland (5), FR = France (9), GB = Great Britain (10), HR = Croatia (1), HU = Hungary (19), IT = Italy (13), MT = Malta (9), NL = Netherlands (10), NO = Norway (2), PL = Poland (3), PT = Portugal (2), RO = Rumania (9), SE = Sweden (1), SI = Slovenia (1), SK = Slovakia (1).

The list is headed by Hungary with 19 localities, followed by Spain with 18 localities (however, the extremely small amount of data from some of these places should be noted!). Next in the list follow Germany (17), Italy (13), Switzerland (11), Great Britain and the Netherlands (10 each), France, Malta and Rumania (9-each).

Finally, let us mention the countries and areas that no data whatsoever has been recieved from:
Albania, Andorra, Balearic Isles (ES), Bielorussia, Bohemia, Bosnia and Herzegovina, Corsica (FR), Cyprus, Gibraltar (GB), Greece, Ireland, Iceland, Latvia, Liechtenstein, Lithuania, Luxemburg, Macedonia, Moldavia, Monaco, Northern Ireland (GB), Russia, San Marino, Sardinia (IT), Sicily (IT), Turkey, Ukraine and Yugoslavia. – Many of these countries have acknowledged lepidopterists. We hope that the gaps would be abridged in course of the next "European Moth Nights" (see below).

**PROBLEMS REGARDING DETERMINATION AND THE METHODS OF COLLECTING**

As pointed out in the introduction, senders are responsible for the accurate determination of species. The authors had no possibility to check each determination in person or, in each suspicious case, ask for further information regarding the correctness of determination. However, in some cases, we asked for subsequent verification, and our doubts were mostly proved to be true. These mistakes were then either corrected or the corresponding data were deleted from the table. Still, in some of these cases, senders were unable to check the questionable determination. Later on we come back to some thoughts on this subject.

These remarks are especially true for species that are hard to determine, sometimes only identifiable by their genital organs. In most cases, senders made no mention of any investigation of genital organs. For that reason, determination in the case of a whole series of species should be recieved with caution. Further information, wherever required, must come directly from the submitters of data.

In this EMN list (Tab.4), the following pairs or groups of species appear to be the most problematic at first sight:

GEOMETRIDAE: *Ennomos* spp., *Nychiodes* spp, *Selidosema plumaria/brunnearia*, *Tephronia* spp., *Chlorissa* spp., *Cyclophora* spp., *Idaea* spp., *Thera variata/britannica, Horisme tersata/radicaria, Eupithecia* spp., *Chloroclystis* spp., *Macaria alternata/notata*; NOTODONTIDAE: *Furcula* spp.; NOCTUIDAE: *Acronicta cuspis/tridens/psi, Cryphia* spp., *Plusia festucae/putnami*, *Autographa* spp., *Abrostola* spp., *Cucullia* spp., *Shargacucullia* spp., *Amphipyra pyramidea/berbera, Heliothis viriplaca/maritima*, *Paradrina* spp., *Hoplodrina* spp., *Oligia* spp., *Mesapamea* spp., *Amphipoea* spp., *Chersotis alpestris/oreina*; NOLIDAE: *Nola* spp., *Nycteola* spp.; ARCTIIDAE: *Eilema complana/pseudocomplana, Eilema pygmeola/lutarella, Setina* spp., *Spilosoma lubricipeda/urticae* (the two *S. urticae* reported were by all certainty *lubricipeda f.paucipuncta* and were also recorded in this form in the table of summary).

In the future, we shall ask senders to specifically indicate in their lists the species they will have determined on the basis of genital preparation. In the new form to be released, there will be a separate column for this purpose.

It is possible that problems of determination prevented some participants from reporting on such species even if they had collected or observed them. Thus, for instance the genus *Idaea, Gnophos* and some closely related groups, as well as species from the genus *Eupithecia* were very weakly represented in the list. However, in all such cases, lepidopterists should by all means try to make a genital organ observation, on their own, or with the help of experienced lepidopterists, especially when they take part in a special event such as "European Moths Nights".

Unfortunately, here we face another problem which strongly influences faunistical research as a whole in the field of nocturnal Macrolepidoptera. For various reasons, many lepidopterists follow the method of only observing and subsequently simply noting down the name and the accurate or estimated number of individuals, or not even noting down numbers, of the moths flying to light. It is an illusion to justify this method by

considerations of nature conservancy, because no species of moths will be extinguished by an occasional collecting by lamp, while the method is also rather un-scientific, since no documentary specimen is preserved.

Naturally it is impossible to catch everything or keep everything that has been caught, (but in this way, specimens can certainly be investigated and determined somewhat more carefully and efficiently). What has been prepared and stored, can not be saved for eternity either. However, if one collects moths, it is advisable to keep at least 1-5 individuals of each species from each locality in one's own collection or in that of some kind of institution, to make them available for subsequent verification. This also refers to special occasions of collecting such as for instance the "European Moth Nights". This time, too, when asked for subsequent verification, participants were unable to give appropriate answers in some problematic cases, since they had no documentary specimen, instead, all they had was a note!

It is a big problem of every "scientific approach" that its limits cannot be determined. In fact, the knowledge obtained by people in the course of studies is all science. To the knowledge belongs in turn also that, what the people know wrong. However, knowledge based on misinformation is also knowledge. It is called false science. Therefore there is a continuous struggle to separate false knowledge from the knowledge based on truths. If a documentary specimen is available to confirm to collecting data, verification at any time in the future is also possible. If there is nothing but a note, knowledge will be no more than simple belief. And that falls beyond the realm of science. Therefore entomology often teeters on the thin line between seriousness and friskfulness since 1) most of the questions are not of vital importance, because 2) the number of insect species and specimen is too high and almost inexplorable, and since 3) great many people have studied and are studying insects only for fun, often seriously, yet at varying depths of scientific pretention.

## ABOUT THE RESULTS

### Systematics, taxonomy and nomenclature

We based our list of species (systematics, taxonomy and nomenclature) on the checklist of Europe by KARSHOLT and RAZOWSKI ("KARSHOLT, O. & RAZOWSKI, J. 1996: The Lepidoptera of Europe. A Distributional Checklist. – Apollo Books, DK-Stenstrup").

For the sake of uniformity, we had to choose one of the various systematics accepted and actually used in the different countries. Even the species names that became valid for a certain taxon after 1996 were only listed among the synonyms, but in these cases, we always added: "valid name". Uniform numbering of the species made evaluation significantly easier. This, however, does not mean that we are in agreement on all questions of detail or fully satisfied with this system.

### The "Macrolepidoptera" species reported

Although weather conditions were less than optimal and the number of lepidopterists taking part in the event was also less than expected or necessary, the 154 participants at 159 localities were able to record a total of 850 "Macroheterocera" species (large Macrolepidoptera) – including some special subspecies and three diurnal butterfly species as well – in the course of the '1st European Moth Nights" (Table 4, Map 3). Achieved in only three calendar days, this amounts to as much as 31 % of the ca. 2730 Macrolepidoptera species given for the whole of Europe in the 1996 checklist of KARSHOLT & RAZOWSKI. The table of summary, which can be only published because of its size on the Internet (see the addresses below), contains 6825 series of data.

– The species reported from the highest number of places were the following:
*Xestia c-nigrum* L. (104), *Noctua pronuba* L. (81), *Cosmia trapezina* L. (73), *Autographa gamma* L. (71), *Idaea aversata* L. (63), *Mythimna albipuncta* D.SCH. (63), *Ochropleura plecta* L. (63), *Eilema complana* L. (55), *Peribatodes rhomboidaria* D.SCH. (54), *Rivula sericealis* SCOP. (53), *Amphipyra pyramidea* L. (53), *Mesoligia furuncula* D.SCH. (50), *Thalpophila matura* HUFN. (49), *Triodia sylvina* L. (48), *Apamea monoglypha* HUFN. (47), *Mesapamea secalis* L.(?) (47), *Hypena proboscidalis* L. (46), *Xestia baja* D.SCH. (46), *Epirrhoe alternata* O.F.MÜLL. (45), *Lymantria dispar* L. (45), *Mythimna ferrago* F. (44), *Phragmatobia fuliginosa* L. (44), *Agrotis segetum* D.SCH. (42), *Noctua janthe* BKH.(sp.? *janthina*-f.?) (41), *Agrotis exclamationis* L. (41), *Cosmorhoe ocellata* L. (40), *Cryphia algae* F. (39), *Arctia caja* L. (39), *Axylia putris* L. (38), *Timandra comae* A.SCHMIDT (37), *Hoplodrina blanda* D.SCH. (36), *Hoplodrina ambigua* D.SCH. (36), *Phlogophora meticulosa* L. (36), *Lymantria monacha* L. (35), *Lacanobia oleracea* L. (34), *Scotopteryx chenopodiata* L. (33), *Pheosia tremula* CL. (33), *Cerapteryx*

*graminis* L. (32), *Camptogramma bilineata* L. (31), *Craniophora ligustri* D.SCH. (31), *Emmelia trabealis* SCOP. (31), *Mythimna pallens* L. (31), *Mamestra brassicae* L. (30), *Euplagia quadripunctaria* PODA (30).

– The species reported from the highest number of countries were the following (Table 5):
*Cosmia trapezina* L. (18), *Idaea aversata* L., *Epirrhoe alternata* O.F.MÜLL., *Noctua pronuba* L. (17), *Rivula sericealis* SCOP., *Autographa gamma* L., *Amphipyra pyramidea* L., *Xestia c-nigrum* L., *Xestia baja* D.Sch. (16), *Mesoligia furuncula* D.SCH., *Ochropleura plecta* L., *Lymantria dispar* L., *Eilema complana* L. (15), etc.

– The following 16 species (1,88%) have been reported in high frequency (over 100 specimen) from at least one place:
GEOMETRIDAE: *Macaria liturata* CL., *Alcis repandata* L., *Adactylotis gesticularia* HBN., *Aspitates gilvaria* D.SCH., *Cyclophora porata* L., *Scopula submutata* TR., *Idaea filicata* HBN.; NOCTUIDAE: *Cryphia algae* F., *Cosmia trapezina* L., *Mamestra brassicae* L., *Lasionycta proxima* HBN., *Xestia c-nigrum* L., *Agrotis segetum* L.; LYMANTRIIDAE: *Lymantria dispar* L.; ARCTIIDAE: *Eilema complana* L., *Eilema caniola* HBN.

– The following 76 species (8,94%) have been reported in relatively high frequency (30 to 99 specimen) from at least one place:
HEPIALIDAE: *Triodia sylvina* L., *Gazoryctra fusconebulosa* DG.; THYATIRIDAE: *Ochropacha duplaris* L.; GEOMETRIDAE: *Calospilos pantaria* L., *Macaria notata* L., *Crocallis elinguaria* L., *Peribatodes secundaria* D.SCH., *Alcis repandata* L., *Hypomecis punctinalis* SCOP., *Ectropis crepuscularia* D.SCH. (=*bistortata* GZE.), *Adactylotis gesticularia* HBN., *Elophos dilucidaria* H.SCH., *Scopula umbelaria* HBN., *Rhodostrophia vibicaria* HBN., *Rhodometra sacraria* L., *Scotopteryx coelinaria* GRASL., *Sc.chenopodiata* L., *Xanthorhoe fluctuata* L., *Epirrhoe galiata* D.SCH., *Entephria caesiata* D.SCH., *Eulithis populata* L., *Chloroclysta citrata* L., *Ch.truncata* HUFN., *Hydriomena furcata* THNBG., *Aplocera praeformata* HBN., *Minoa murinata* SCOP.; NOTODONTIDAE: *Thaumetopoea processionea* L., *Th.pityocampa* D.SCH., *Pheosia gnoma* F., *Spatalia argentina* D.SCH.; NOCTUIDAE: *Cryphia algae* F., *Catocala nymphagoga* ESP., *Tyta luctuosa* D.SCH., *Hypena proboscidalis* L., *Autographa gamma* L., *Emmelia trabealis* SCOP., *Protodeltote pygarga* HUFN., *Odice jucunda* HBN., *Eublemma parva* HBN., *Oncocnemis confusa michaelorum* BESHK., *Helicoverpa armigera* HBN., *Platyperigea aspersa* RMBR., *Hoplodrina octogenaria* GZE. (=*alsines* BRAHM), *H.blanda* D.SCH., *Cosmia trapezina* L., *Apamea monoglypha* HUFN., *A.lateritia* HUFN., *Amphipoea crinanensis* BURR., *Discestra trifolii* HUFN., *Mythimna ferrago* F., *M.albipuncta* D.SCH., *M.impura* HBN., *M.unipuncta* HAW., *Cerapteryx graminis* L., *Tholera decimalis* PODA, *Axylia putris* L., *Diarsia dahlii* HBN., *Noctua pronuba* L., *N.janthina* D.SCH., *N.janthe* BKH. (=*janthina* f.?), *Xestia c-nigrum* L., *X.baja* D.SCH., *X.ochreago* HBN., *X.xanthographa* D.SCH., *Agrotis puta* HBN., *A.exclamationis* L., *A.vestigialis* HUFN.; LYMANTRIIDAE: *Lymantria monacha* L.; ARCTIIDAE: *Miltochrista miniata* FORST., *Eilema lurideola* ZINCK., *E.complana* L., *E.caniola* HBN., *E.lutarella* L., *E.uniola* RMBR., *Spilosoma lubricipeda* L. (=*menthastri* D.SCH.), *Euplagia quadripunctaria* PODA.

**Faunistical Novelties**

The aims of the event include an attempt to find some kind of novelty for the fauna of Europe, a county or a region. It is no small thing we have in mind, yet, the genuine novelties we hope to find would be of the importance of salt to food. However, to achieve that objective, more initiative and will to communicate is needed on the part of lepidopterists who all know their own countries much better than we do. This time, too, the only reason why we are able to report at a somewhat greater length on the total number of three cases submitted is because the first author put additional work into the reports, throwing light on further details and completing some unfinished parts.

1) "Almost new" for the fauna of Europe, but by all means new for the fauna of Malta:
– *Araeopteron ecphaea* (HAMPSON, 1917) (Noctuidae): SAMMUT, SEGUNA and BORG reported this species from Malta, where they collected 4 individuals on the 15th of August, with the remark, that *ecphaea* should be a new species for the fauna of Europe. This small, Microlepidoptera sized tropical migrating Macrolepidoptera is hard to determine, and in fact, it is not included in the 1996 chekcklist of KARSHOLT & RAZOWSKI, yet, it was reported in Europe several times since 1987, namely in Greece and Spain, including Mallorca. See: "FIBIGER, M. & AGASSIZ, D., 2001: *Araeopteron ecphaea*, a small noctuid moth in the West Palearctic (Noctuidae: Acontiinae). Nota Lepid, 24, 1/2: 29-35", and "REQUENA E., 2002: Noves dades sobre *Araeopteron ecphaea* (Hampson, 1914) a Catalunya (Lepidoptera: Noctuidae). – Butll. Soc. Cat. Lep., 88: 17-18".

2) New for the fauna of Bulgaria:
– *Pandesma robusta* (WALKER, [1858]) (Noctuidae): Reported by STOJAN BESHKOV from the coast region of the Black Sea, from the neighbourhood of Cape Kaliakra, Balgarevo (district Kavarna), August 14, 2004. – According to literature data, this large, tropical noctuid moth is distributed from the whole area of Africa through West- and Central-Asia to India, however, it has been reported already from the territory of Greece, Crete, Malta, Sicily, Spain, Portugal and the Canary Islands. Thus its appearance in Bulgaria cannot be regarded as a big surprise. For the time being, however, it can be assumed that *P. robusta* appeared there only as an immigrant. – For relevant literature, see e.g.: „FIBIGER, M., 1986: *Thria robusta* WALKER, 1857 nec *Pandesma anysa* GUENÉE, 1852, in Europe. – Nota Lepid., 9 (3/4): 175-178“, moreover: „BELLA, S. & RUSSO, P., 1999: *Pandesma robusta* new to the Italian fauna (Lepidoptera, Noctuidae). – Esperiana, 7: 472”.

3) A rarely seen guest in Switzerland:
– *Daphnis nerii* (Linnaeus, 1758) (Sphingidae): MARCEL & WALTER NIEDERBERGER reported it from the Göscheneralp, 1750 m (Göschenen, Kanton Uri, Schweiz), August 14, 2004. This species has been reported only once so far from the territory of the Central-Swiss Alps. Collecting moths on the same day at a distance, in the lower region of the Göschener valley, the first author (REZBANYAI-RESER) also happened to be present at the moment of collection. – Apparently, *D. nerii* was a rarely found guest in Central-Europe, including Switzerland, over the past decades. However, even in the frame of this international event, this is the only report on this species. The latest observation of a Swiss specimen of *D. nerii* was made in Southern-Switzerland (Aeroporto-Stallone, Piano di Magadino, Tessin, October 12, 1986, leg. L. REZBANYAI-RESER). The specimen found on Göscheneralp was an unusually small male and it was obviously migrating through the Alps. Simultaneously other migrating moth species also flew to light (*Autographa gamma, Apamea monoglypha*, *Heliothis peltigera, Phlogophora meticulosa, Mythimna vitellina, Noctua pronuba, N. fimbriata, N. janthina and Xestia c-nigrum*). Somewhat lower down in the Göschener valley, in turn, practically no migratory moth species flew! – For the latest *nerii* report from Switzerland, see: ”REZBANYAI-RESER, L. (1990): Wieder einmal Oleanderschwärmer in der Schweiz (Lepidoptera, Sphingidae). – Atalanta, 21 (1/2): 65-67.“

**Rhopalocera Flying to Lamp**

It is particularly remarkable when species active at daytime, including in the first place, real diurnal butterflies, fly to light. The first author once devoted a special report to these phenomena: " REZBANYAI-RESER, L. (1989): Lichtanflug von Tagfaltern und anderen tagaktiven Macrolepidopteren in der Schweiz (1972-1988) (Lepidoptera: Rhopalocera und Macroheterocera). - Nota Lepid., 12: 36-44." In the course of this project, some diurnal butterflies were also attracted to light. Namely:
– *Lysandra coridon* PODA (Lycaenidae) (1): DE - Bayern, Weismain, Arnstein (leg. H.K.PRÖSE),
– *Lasiommata megaera* L. (Satyridae) (1): DE - Saarland, Hüttersdorf, Ludwig-Uhland-Str. 34 (leg. N.ZAHM & H. SCHREIBER),
– *Hipparchia fagi* SCOP. (Satyridae) (1): CH - Tessin, Tesserete, Gola di Lago (leg. REZBANYAI-RESER, L).

**Taxonomic Remarks**

– *Cilix hispanica* PEREZ DE GREGORIO et al., 2002 (Drepanidae): Probably one of an Atlanto-Mediterranean distribution (Iberia, the Baleari Islands, southern France) and closely related and very similar to *C. glaucata*, this species was described after the appearance of the 1996 checklist of KARSHOLT & RAZOWSKI. See: "J.J.PÉREZ DE GREGORIO, X.JEREMIAS TORRUELLA, E. REQUENA MIRET, M. RONDÓS CASAS & F. VALDHONDRAT I FIGUERAS (2002): *Cilix hispanica* sp.n., nuevo Drepanidae para la fauna Ibero-balear (Lepidoptera: Drepanidea: Drepaninae). - Bol. Soc. Ent. Aragon, 30: 33-36.", and "R. MAZEL, J. YLLA & R. MÁCIA (2002): *Cilix hispanica* PÉREZ DE GREGORIO & al., 2002, remarquable espéce morphologocryptique nouvelle pour la faune de France (Lepidoptera, Drepanidae). - Revue de l'Association Roussillonaise d'Entomologie, 11 (3): 81-87."

– *Hyloicus maurorum* (JORDAN 1931) (Sphingidae): It was reported from Catalonia (Spain) by JORDI DANTART, JORDI JUBANY & SANTI VIADER as well as JOSEP YLLA & RAMÓN MÁCIA. - This taxon was originally described as a sub-species of *Hyloicus pinastri* L., and therefore is not included in the checklist of KARSHOLT & RAZOWSKI, although way back in 1986, EITSCHBERGER et al. considered *maurorum* as a separate species (see below). The main differences between *pinastri* and *maurorum* manifest themselves especially in the valva of the male genitalia, but distinctive features can also be observed in the egg, larva and the pupa stages. The distribution of *H. maurorum* is restricted mainly to north-western Africa (type locality), the Iberian Peninsula and the south western regions of France. However, in central and eastern France, hybrid zones were also found. These appear to be narrow and stable. Here we might be talking about two semispecies or two subspecies

genetically strongly detached from each other, meeting again in consequence of post-glacial area expansions, with a possibility of completely melting into each other some time in the future. On the subject, also see on the net: http://tpittaway.tripod.com/sphinx/s_mau.htm, and in literature: "EITSCHBERGER, U., DANNER, F., & SURHOLT, B. (1989): Taxonomische Veränderungen bei den Sphingiden Europas und die Beschriebung einer neuen *Laothoe*-Unterart von der Iberischen Halbinsel (Lepidoptera, Sphingidae). - Atalanta, 20: 261-271."

– *Diachrysia chrysitis* (LINNAEUS, 1758) *& tutti* (KOSTROWICKI, 1961) (Noctuidae): These two taxa have been included on the basis of reports by participants, however, it is not completely clear whether they all made a differentiation between the two and did not report on both as *chrysitis.* However, the taxonomic status of *Diachrysia tutti* (= the greenish gold patches of the forewing are connected with each other horizontally by a greenish gold bridge) regarded for some time as a separate species by many lepidopterists on the basis of differences found in the field of pheromons (sexual attractants) is most questionable. Thorough investigation by the use of pheromon traps and morphological studies lead us to believe that - at least in Switzerland - the pheromons of *chrysitis* and *tutti* are significantly but by no means totally selective and both in the external morphology of adults and in the genital organs, every possible form of transition is observable. As a result, the moths flying to light cannot be determined unambiguously and without compulsion. This shows that the two taxa are genetically not completely isolated and can produce procreative hybrids. We are probably talking about what used to be two subspecies which, in many places, are now on their way towards merging into each other. Many years ago, URBAHN and LEMPKE already collected evidence to prove that *tutti* is not a valid species, and some of these were published at the time. - On the subject, see: „PRIESNER, E. (1985): Artspezifische Sexuallockstoffe für Männchen von *Diachrysia chrysitis* (L.) und *D. tutti* (KOSTR.) (Lepidoptera, Noctuidae: Plusiinae). – Mitt Schweiz. Entomol. Ges., 58: 373-391.“, and: „REZBANYAI-RESER, L. (1985): *Diachrysia chrysitis* (LINNAEUS, 1758) und *tutti* (KOSTROWICKI, 1961) in der Schweiz. Ergebnisse von Pheromonfallenfängen 1983-84 sowie Untersuchungen zur Morphologie, Phänologie, Verbreitung und Oekologie der beiden Taxa (Lepid., Noctuidae: Plusiinae). – Mitt. Schweiz. Entomol. Ges., 58: 345-372.“

– *Noctua janthina* (DENIS & SCHIFFERMÜLLER, 1775) *& janthe* (BORKHAUSEN, 1792) (Noctuidae) (The most striking difference in the external morphology of the adults of the two taxa are: the black margin of the hindwing of *janthina* is very wide and the costal margin is also black in its whole width. As against that, the black margin of the hindwing of *janthe* is much narrower and remains orange in a wide range in a basal direction. Attention: in the original publication, MENTZER, MOBERG & FIBIGER, 1991, in a correct description, the pictures were mixed up as a result of a mistake by the board of editors, and this has confused many lepidopterists ever since!): In the case of these two taxa (and also in the third, "*Noctua tertia* MENTZER, MOBERG & FIBIGER, 1991") the taxonomical status might be very similar to that of *chrysitis* and *tutti*. The pheromones of *janthina, janthe* and *tertia* have probably not been examined yet, but they have been isolated as separate species on the basis of adult morphology. On the basis of comprehensive examination by the first author (REZBANYAI-RESER), we have to emphasise that, at least in the case of *janthina* and *janthe,* obvious transitional forms of the taxa - that can not be determined unambiguously and without compulsion - are often to be found. This is probably also true for the third taxon (*tertia*). Over and above that, in the course of more ex-ovo rearings it was also established that obviously *janthe*-looking parents among typical *janthe* and transitional descendants could produce clearly characteristic *janthina* moths, even from the same batches of eggs (publication under way). However, simultaneous cross-breeding experiements have not been carried out. - In the case of these two taxa, locality data were included in the list on the basis of reports by participants. We don't know if the two names had not been mixed up by anyone (see above), or if everyone made a distinction between the two taxa, without reporting both by the name, *janthina.*

**EMN AND THE PROTECTION OF NOCTURNAL MOTHS**

This event should attract wide-scale attention to nocturnal moths. We should make the general public aware of the very existence of these creatures, and their mass scale presence in nature. Several participants were accompanied on their collecting sprees by friends and acquaintances interested in nocturnal moths and their way of life. This possibility should be exploited even more in the future and if that is realized, a concrete report on that achievement should be sent to EMN HQ.

We also try to give as much publicity as possible to this project in the professional periodicals as well as dailies of the different countries and ask all lepidopterists to take suit. You are all free to use any EMN data to be found on the Internet or in print, naturally, by naming your source.

Thousands of pages in books, printed publications and press articles have been devoted to all kinds of nature conservancy problems. If we discuss such matters, we must do so in brief, focusing on the most important points.

First of all, we should repeatedly and emphatically bring to the knowledge of the world that nocturnal moths, too, need active protection against human activity. However, it is relatively rare that only nocturnal moths require protection. As a general rule, whole biocoenoses, including moths are to be protected. It might also happen, however, that moths require protection that is special from a certain point of view, or they might serve as indicators to point to general condition of the biotope.

Prohibition on collecting nocturnal moths might be effective and sensible only in special smaller areas under general nature conservancy protection. The kind of overall ban that is in effect in several countries is a politically motivated measure taken for the sake of appearances and is completely counterproductive. By it, we are assured that important steps are being taken, while in fact, the destruction of the the nocturnal moth fauna continues.

– An overall prohibition hinders, or greatly obstructs the research work of lepidopterists, most of whom in the past had been amateurs and not professional entomologists. This is so right now and will continue to be so in the future.
– A general ban greatly prevents the emergence of a new generation of lepidopterists, a problem already present in many countries.
– Such a prohibition impedes lepidopterist activity often of great use to nature conservancy.
– The granting of special permits of collection is no solution to this problem. To obtain such a permit requires a lot of red tape in a process regarded as unwelcome by any amateur who would also have to pay to be able to pursue an unpaid activity. For the lack of resources to finance research on lepidoptera is a general phenomenon.

The most awful negative impacts caused by humans on the fauna of nocturnal moths, impacts that should be eliminated or restricted are not caused by the few collectors or researchers. Let us mention here but the most important of subjects that require our special attention from the point of view of general nature conservancy as well as the specific requirements of the protection of the fauna of nocturnal moths. These include:
– not to mechanically destroy or poison natural nocturnal moth biotopes,
– prevent, instead of promoting the fragmentation of natural biotopes,
– not to force into artificial channels the waterflows sustaining natural biotopes,
– not to eradicate or significantly alter the vegetation along natural water banks,
– not to drain naturally wet areas,
– not to water naturally dry areas,
– not to plant trees in areas where trees don't grow by nature,
– not to cut out natural forests or groups of trees, unless new trees are planted,
– not to submit the different kinds of natural grassland to intensive cultivation, fertilization and utilization,
– to never mow at one go the complete area of meadows and reedy stretches (priority should be given to cultivation by rotation),
– not to prevent the land being grazed by animals under the pretext of managing smaller nature conservancy areas,
– not to eliminate hedges and woodland border vegetation,
– not to eliminate the natural forest subgrowth and the vegetation of woodland clearances,
– not to plant trees and bushes imported from abroad or alien to the given region,
– not to plant trees and bushes not corresponding to the general character of a biotope,
– not to enhance the emergence of woodland monocultures,
– not to enhance the growth of stock of exactly the same age (diversity in the age of trees is an advantage),
– not to remove all the old or dead trees from the woods,
– not to accept the overpopulation of game either in open areas or on woodland,and what is of particular concern for nocturnal moths:
– not to introduce public lighting systems in the vicinity or inside natural biotopes and to dismount or strongly reduce existing ones. - This phenomenon described as light pollution in scientific literature, has become a major problem over the past one hundred years and certainly has a major impact on the activity of nocturnal moths. However, the attracting power of light is not the biggest problem here, because the animals do not fly to light from a great distance. The main danger lies in generally disturbing animals (in their movement, nourishment and reproduction) which require darkness and will therefore gradually disappear from places with direct or diffuse light.

In all these efforts, whether international or national, one must learn to be consistent, purposeful and persisting. But one must also learn to keep measure, to be able to make compromises and solve problems without

aggression and with cooperation. Finding the common denominator with and not against farmers, forest rangers, proprietors, factories, roads and railways.

Success can only be hoped to be achieved if we never ever lose sight of these problems. Even if we fail to find the optimal solution and of course nocturnal moths cannot be expected to show gratitude. But in this way they would survive, not in the last place for us, collectors and researchers!

**PLANS CONCERNING THE FUTURE OF EMN**

Following this successful pilot project, it seemed reasonable to organize EMN annually in the future. The idea of staging it two or three times a year has been rejected for various technical and emotional considerations. Too much work and little hope of fully accomplishing are are among the reasons - in the absence of full time help to assist in the work of organization and evaluation. But we also want to avoid the event becoming a boring, everyday activity.

Following from what went before, here and now we should like to announce the following three European Moth Nights for the years 2005-2007. The invitation will also be available on the net in due time. As far as our possibilities allow, we shall inform as many colleagues as possible by E-mail.

After due consideration, the following three periods have been selected:

**July 1st-3rd 2005 April 28th-30th 2006 October 12th-14th 2007**

The reasons behind the above choice of dates are as follows: 1) the moon phase suitable for collecting by lamp, 2) days over the week-end (Friday, Saturday, Sunday), 3) periods providing us with strongly different groups of nocturnal moth species (we want to achieve a certain amount of variety on the one hand, and, on the other, to enrich the total checklist of the project also with species flying in the spring and in the autumn).

Organization and evaluation take a lot of effort. That is why we would like to find colleagues accepting the responsibility (EMN Ambassadors) in the different countries or geographical areas. Ambassadors could mobilize, organize and coordinate in their own areas on the one hand, while on the other, they could collect, as far as possible verify reports and prepare them for central processing. Volunteers are welcome from any country without an EMN Ambassador as yet. Those in charge should speak English or German (or Hungarian) besides their mother -tongue and should be able to correspond and traslate minor texts from these languages to their mother-tongues. The names of accepted Ambassadors as well as existing vacancies will always be available on the EMN sites (see below).

**APPEAL**

We invite all European nocturnal moth collectors and specialists who read these lines to:
1) take an active part in the planned events,
2) fill in the data, as completely as possibe, in the given Excel tables,
3) inform of the event in time the colleagues they know, and to
4) try and convince other colleagues of the importance of participation in the event.

**NOCTURNAL MOTH COLLECTORS, WHERE ARE YOU?**

We should emphatically point out that the seemingly high number of participants (154) at this voluntary international lepidopterological project is in fact relative and somewhat disappointing. Many lepidopterists failed to react to the call announcing the 1st European Moth Nights, including many of the closest acquaintances of members of the organizing committee. That despite the fact that many invations were mailed directly and a high, although unknown number of lepidopterists had a chance to learn about the event indirectly from the internet sites or from colleagues.

Some may have had personal or official reasons explaining their absence, although problems of that nature could have been solved in a three day period. Perhaps some colleagues did not take the call seriously, despite the fact that we had the goals clearly stated and seriously meant. Perhaps some just did not want to take the effort, even if all they would have had to do was to fill out a form and send it to the EMN HQ, once they do regular collecting by lamp or by trap anyway, or obeserve moths and record results. Many explained their absence with reference to bad weather, while, in fact, excellent results are sometimes achieved by collecting in bad weather. This time,

too, there were good examples to prove this point. A nocturnal moth hunter must sometime take serious sacrifices for outstainding results.

We sincerely hope that following this first attempt and its evaluation, many European lepidopterists then absent would realize that their names remained unmentioned in a meaningful international scientific project worth supporting. We hope that the planned further European Moth Nights will encourage more lepidopterists to take an active part and perhaps also allow an insight to the general public. Even if a higher number of participants means more work for the organizers.

**MOST IMPORTANT ADDRESSES**

Here we list the most important addresses for information currently on the 1st European Moth Nights (2004) and subsequently on the further events:

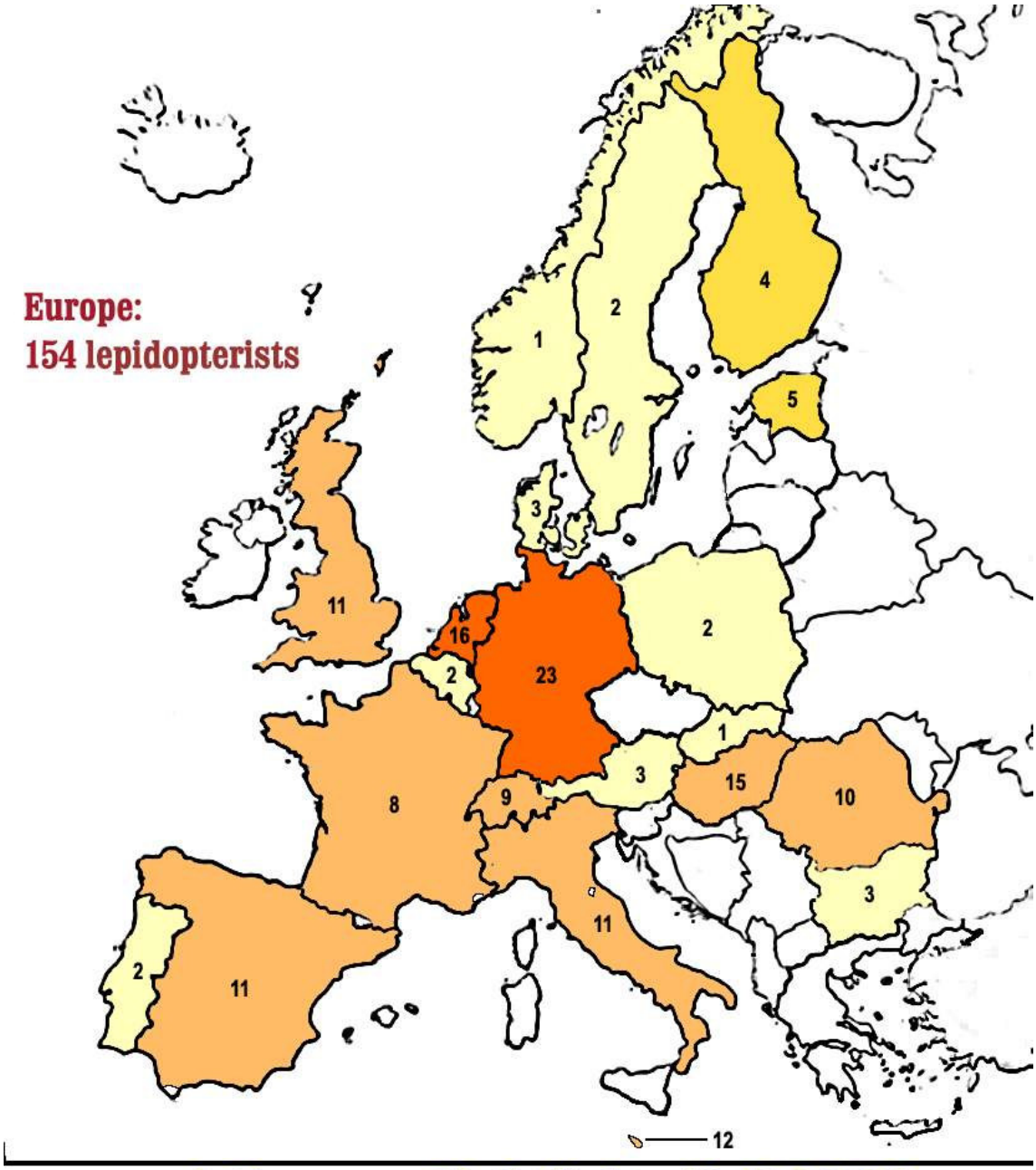
"József Szalkay József Lepidopterological Society of Hungary“
http://lepidoptera.fw.hu

„European Moth Nigts / Europäische Nachtfalternächte“
http://www.european-moth-nights.ch.vu

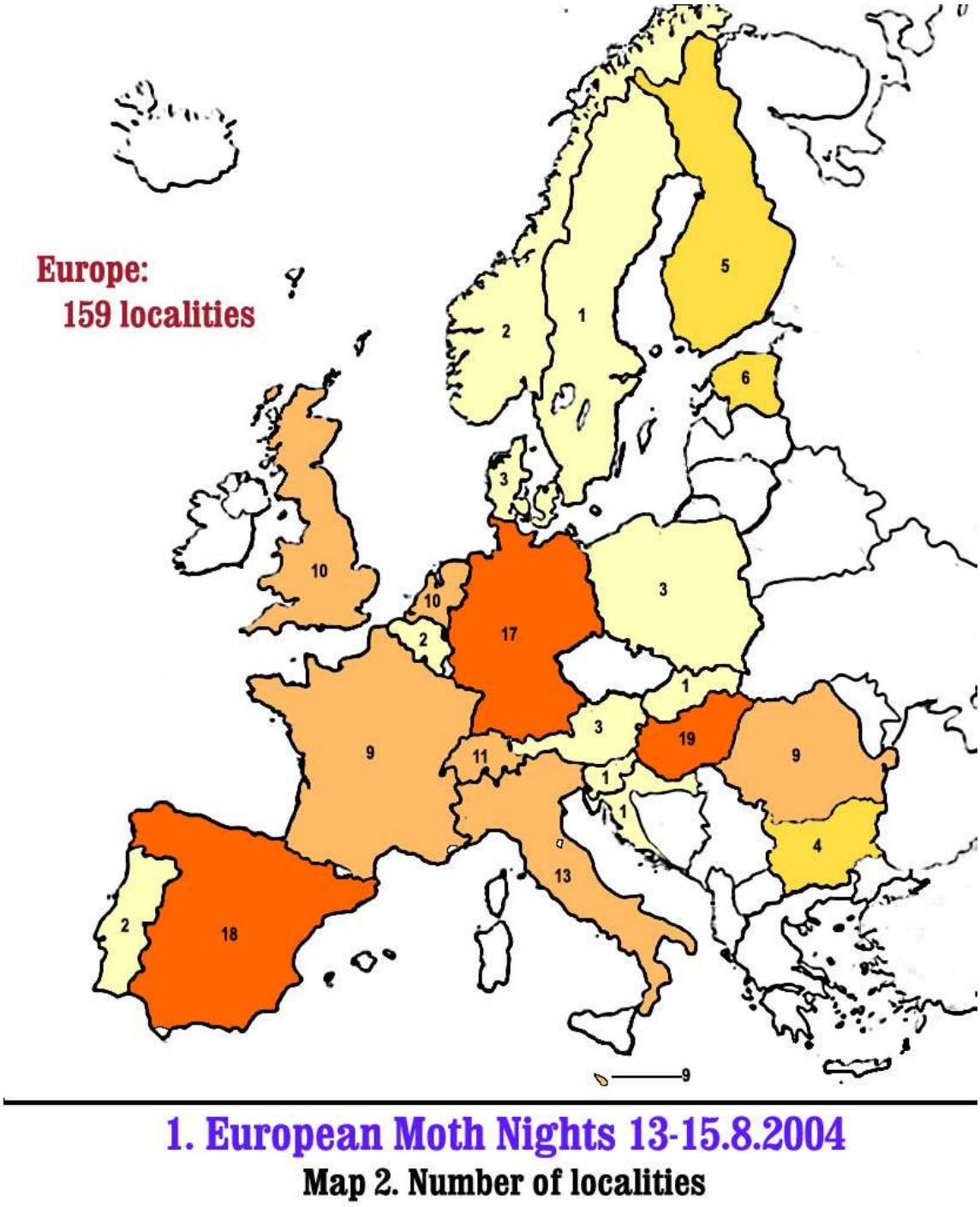
Mihály KÁDÁR
Zoványi J. u. 19/B/9, H-4033 Debrecen (Hungary)
kadar.mihaly@mail.vpop.hu
inachis@axelero.hu

Ladislaus RESER (REZBANYAI)
Natur-Museum Luzern, Kasernenplatz 6, CH-6003 Luzern (Switzerland)
ladislaus.reser@lu.ch
http://www.geocities.com/reser_entomologie

**Map 1. The number of participants of the 1st European Moth Nights 2004 by countries.**



**Map 2. The number of localities by countries reported in course of the 1st European Moth Nights 2004.**



**Map 3. The number of Macrolepidoptera species reported from each country in the course of 1st European Moth Nights 2004.**